

PSEG Nuclear LLC
P.O. Box 236, Hancocks Bridge, NJ 08038-0236



PSEG
Nuclear LLC

LR-E13-0142

EPP 5.4.2 Appendix B

NOV 20 2013

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
ARTICLE NUMBER: 7011 3500 0000 5084 9988

SUBJECT: **REPORT OF IMPINGEMENT OF ATLANTIC STURGEON
SALEM GENERATING STATION UNIT NO. 1
DOCKET NO. 50-272**

The Nuclear Environmental Event Report, "Report of Impingement of Atlantic Sturgeon" is being submitted pursuant to the requirements of Section 5.4.2 of Appendix B, Environmental Protection Plan, to the Operating License for the Salem Generating Station, PSEG Nuclear LLC (PSEG).

Two deceased Atlantic Sturgeon were recovered during this particular event. Please find enclosed a letter and two attachments per Atlantic Sturgeon (four total) with further information regarding this impingement event.

If you have any questions or require additional information, please do not hesitate to contact Kenneth Strait, Manager – Biological Programs at (856) 339-3929.

Sincerely,

Lawrence M. Wagner
Plant Manager - Salem
PSEG Nuclear LLC

Attachments (2)

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REPORT OF IMPINGEMENT OF ATLANTIC STURGEON

In accordance with Section 5.4.2 of Appendix B, Environmental Protection Plan, to the Operating License for the Salem Generating Station, PSEG Nuclear LLC (PSEG) hereby transmits notification of a nonroutine event, and documents the occurrence and removal of two Atlantic sturgeon (*Acipenser oxyrinchus*) from the Salem Generating Station circulating water intake structure trash bars.

Consultation pursuant to Section 7 of the Endangered Species Act of 1973 (ESA) between NRC and the National Marine Fisheries Service (NMFS) on the effects of the operation of Salem Station on threatened and endangered species has been ongoing since 1979. The most recent revision to the Biological Opinion and Incidental Take Statement issued in January 1999 exempts the specified annual take of shortnose sturgeon and sea turtles. In advance of relicensing for Salem Station, consultation pursuant to Section 7 of the ESA between NRC and NMFS was reinitiated in 2009. On April 6, 2012, the NMFS listed five Distinct Population Segments of Atlantic sturgeon as threatened or endangered under the ESA. In May 2012, NRC requested consultation on the effects of the continued operation of Salem Station on Atlantic sturgeon. The NMFS issued a draft Biological Opinion and Incidental Take Statement (ITS) in July 2012 that, when finalized, will authorize a specified incidental take of both Atlantic sturgeon and shortnose sturgeon associated with operation of the Salem Station circulating water intake system.

Pursuant to Section 5.4.2 of the Environmental Protection Plan for Salem Station, nonroutine events which require reporting to other federal agencies shall be reported in accordance with the other agencies' reporting requirements. Accordingly, enclosed please find two (2) attachments. Attachment 1 provides the information requested by the NMFS in Appendix II to the current ITS and in Appendix B, Part 2, to the revised draft ITS. Attachment 2 is a copy of a Sturgeon Salvage Form verbally requested by the NMFS.

There are no commitments contained in this letter.

LR-E13-0142
Document Control Desk

cc: Mr. William Dean, Administrator - Region I
U. S. Nuclear Regulatory Commission
2100 Renaissance Blvd., Suite 100
King of Prussia, PA 19406-2713

Mr. John Hughey, Licensing Project Manager - Salem
U. S. Nuclear Regulatory Commission
One White Flint North
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Rockville, MD 20852

USNRC Senior Resident Inspector - Salem
Mail Code X24

Mr. P. Mulligan, Manager
Bureau of Nuclear Engineering
New Jersey Department of Environmental Protection
PO Box 420
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Ms. Lynn Lankshear
National Marine Fisheries Service
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Gloucester, MA 01930

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Mr. Dave Jenkins
Endangered and Nongame Species Program
New Jersey Department of Environmental Protection
1 Van Syckels Road
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Salem Commitment Coordinator
Mail Code X25

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bc: Salem Site Vice President
Salem Plant Manager
Director – Regulatory Affairs
Manager - Biological Programs
Manager – Nuclear Environmental
Affairs Regulatory Assurance Manager –
Salem Records Management

Sturgeon Impingement #1

ATTACHMENT 1 (Sturgeon) #1

Observer's full name: Kenneth E. Kiess

Reporter's full name: Kenneth E. Kiess

Species Identification (Key attached): Atlantic Sturgeon (Acipenser oxyrinchus)

Site of Impingement (Unit 1 or 2, CWS or DWS, Bay #, etc.): SGS Unit 1; CWI bay 13A

Date animal observed: 10-28-13

Time animal observed: 09:20

Date animal collected: 10-28-13

Time animal collected: 09:40

Date rehab facility contacted: _____

Time rehab facility contacted: _____

Date animal picked up: _____

Time animal picked up: _____

Environmental conditions at time of observation (i.e., tidal stage, weather):

Air temp. - 7.2°C; Sal. - 12.0 ppt; Wind - NW; sky - clear; wave - calm; tide Ebb 2 (90.1)

Date and time of last inspection of screen: 10/27/13 at 1800

Water temperature (°C) at site and time of observation: 15.0°C

Number of pumps operating at time of observation: Unit 1 6 Unit 2 6

Average percent of power generating capacity achieved per unit at time of observation:

Unit 1 100 Unit 2 100

Average percent of power generating capacity achieved per unit over the 48 hours previous to observation:

Unit 1 100 Unit 2 100

Sturgeon Information:

Species Atlantic Sturgeon (Acipenser oxyrinchus)

Fork length (or total length) 713mm (TL)/611mm (FL)

Weight 1.46 kg

Condition of specimen/description of animal

Specimen was observed by the Salem Yard Crew during routine trash rack cleaning at Salem CWIB. It was dead upon retrieval. Closer inspection of the specimen indicates that it has been deceased for an unknown period of time, based on its state of decomposition. Specific injuries could not be determined.

Fish Decomposed: NO SLIGHTLY MODERATELY SEVERELY

Fish tagged: YES (NO) Please record all tag numbers. Tag # _____

Photograph attached: (YES) / NO

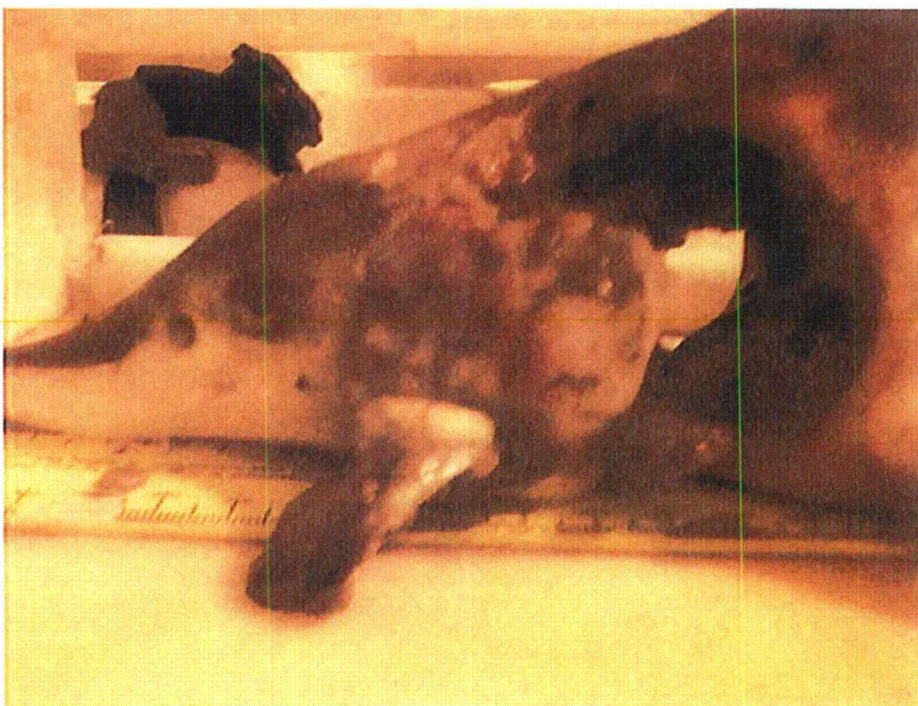
(please label species, date, geographic site and vessel name on back of photograph)

ATTACHMENT 1 (Sturgeon) continued #1

Photographs



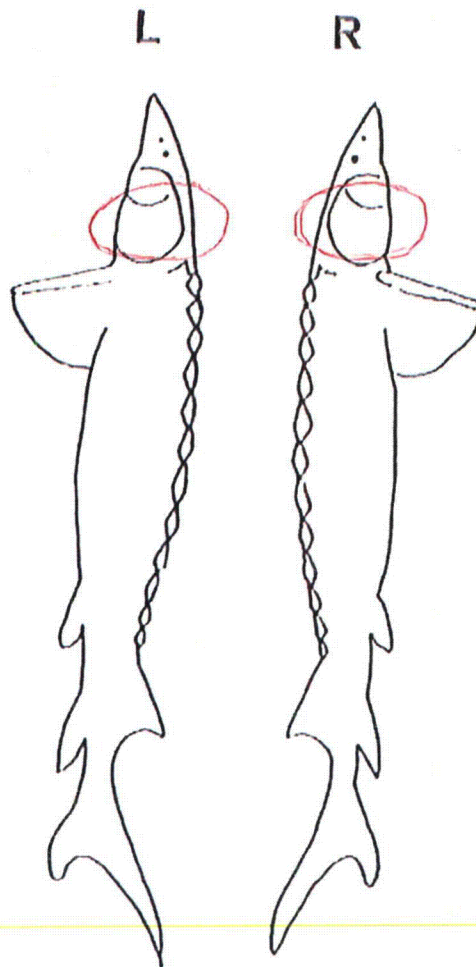
View shows size and condition of an Atlantic Sturgeon, (*Acipenser oxyrinchus*), collected on 10-28-13 at 09:40am by Salem Yard Crew, during routine trash rack cleaning at PSEG Salem CWIS (10-28-13).



View of damage/decay in the area of the gills, on the deceased specimen (10-28-13)

ATTACHMENT 1 (Sturgeon) continued #1

Draw wounds, abnormalities, tag locations on diagram and briefly describe below



Description of fish condition:

The specimen was deceased at the time of initial observation and collection by Salem Yard Crew personnel. Based on the observed state of decomposition, it appears that the fish has been deceased for an extended period of time. Although decay is severe in the area of the gills (red circle), specific wounds or related damage to the rest of the carcass could not be positively identified.

STURGEON SALVAGE FORM #1

For use in documenting dead sturgeon in the wild under ESA permit no. 1614 (version 05-16-2012)

INVESTIGATORS'S CONTACT INFORMATION

Name: First Douglas Last Potts
 Agency Affiliation PSEG subcontractor Email dpotts@ecsi-del.com
 Address 100 South Cass Street, Middletown, DE 19709
 Area code/Phone number (302) 378-9881

UNIQUE IDENTIFIER (Assigned by NMFS)

DATE REPORTED:

Month 10 Day 28 Year 2013

DATE EXAMINED:

Month 10 Day 28 Year 2013

SPECIES: (check one)

- ☐ shortnose sturgeon
☒ Atlantic sturgeon
☐ Unidentified *Acipenser* species

Check "Unidentified" if uncertain.

See reverse side of this form for aid in identification.

LOCATION FOUND:

☐ Offshore (Atlantic or Gulf beach) ☒ Inshore (bay, river, sound, inlet, etc)

River/Body of Water Delaware River City Hancocks Bridge State NJ

Descriptive location (be specific Removed from Circulating Water Intake Structure (CWIS) intake trash racks, intake bay 13A, during routine trash rack cleaning at the Salem Generating Station, PSEG Nuclear LLC.

Latitude 39° 27'38.17 N (Dec. Degrees) Longitude 75° 32'10.08 W (Dec. Degrees)

CARCASS CONDITION at time examined: (check one)

- ☐ 1 = Fresh dead
☒ 2 = Moderately decomposed
☐ 3 = Severely decomposed
☐ 4 = Dried carcass
☐ 5 = Skeletal, scutes & cartilage

SEX:

- ☒ Undetermined
☐ Female ☐ Male
 How was sex determined?
☐ Necropsy
☐ Eggs/milt present when pressed
☐ Borescope

MEASUREMENTS:

Circle unit

Fork length 61.1 cm
 Total length 71.3 cm
 Length ☒ actual ☐ estimate
 Mouth width (inside lips, see reverse side) 2.0 cm
 Interorbital width (see reverse side) 4.5 cm
 Weight ☒ actual ☐ estimate 1.46 kg

TAGS PRESENT? Examined for external tags including fin clips? ☒ Yes ☐ No Scanned for PIT tags? ☐ Yes ☒ No

Tag #

Tag Type

Location of tag on carcass

CARCASS DISPOSITION: (check one or more)

- ☐ 1 = Left where found
☐ 2 = Buried
☐ 3 = Collected for necropsy/salvage
☒ 4 = Frozen for later examination
☐ 5 = Other (describe) _____

Carcass Necropsied?

☐ Yes ☒ No

Date Necropsied: _____

Necropsy Lead: _____

PHOTODOCUMENTATION:

Photos/video taken? ☒ Yes ☐ No

Disposition of Photos/Video PSEG Nuclear Environmental Affairs and Nuclear Regulatory Affairs personnel.

SAMPLES COLLECTED? ☐ Yes ☒ No

Sample

How preserved

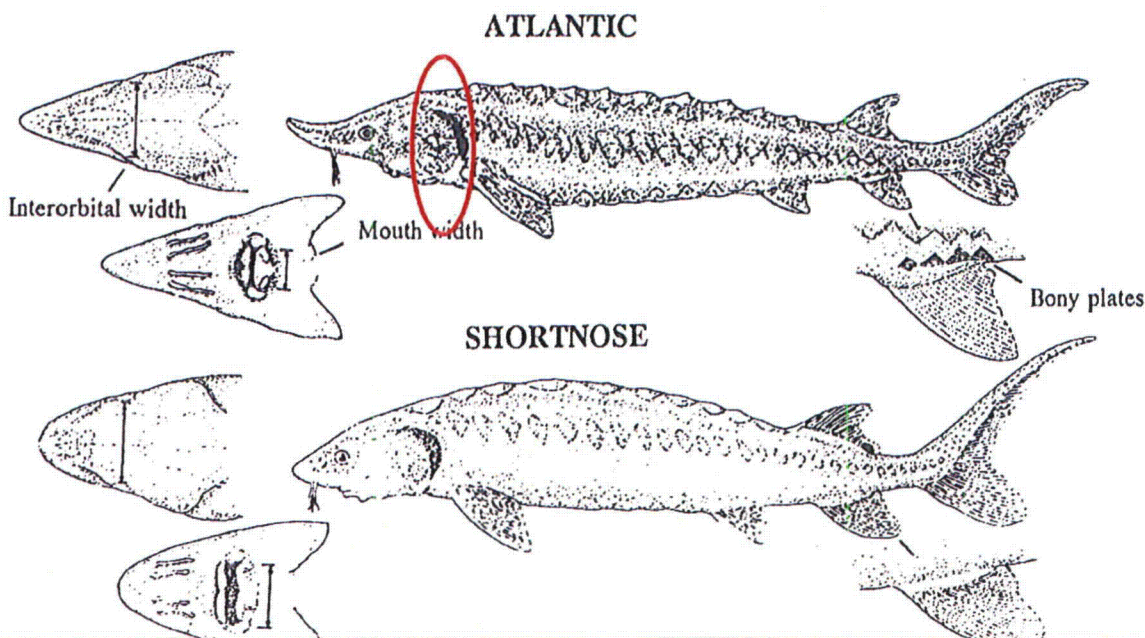
Disposition (person, affiliation, use)

Comments: The deceased Atlantic Sturgeon was collected from the Salem Circulating Water Intake Structure during routine trash rack cleaning on October 28, 2013. Positive identification was made by Environmental Consulting Services personnel at 09:45am. Photos and length measurements were made and inspection for external tags and fin clips was made, but none were found. The State of New Jersey DEP, Division of Fish and Wildlife, and National Marine Fisheries (NMFS) have been notified of the incidental take. The fish was transported back to the ECSI main office in Middletown, DE, and preserved (frozen). At the request of the NMFS, Delaware DNREC was directed to take possession of the specimen. Transfer of custody, from ECSI to DNREC, occurred on 10/29/13, at 10:55am.

Distinguishing Characteristics of Atlantic and Shortnose Sturgeon (version 07-20-2009) #1

Characteristic	Atlantic Sturgeon, <i>Acipenser oxyrinchus</i>	Shortnose Sturgeon, <i>Acipenser brevirostrum</i>
Maximum length	> 9 feet/ 274 cm	4 feet/ 122 cm
Mouth	Football shaped and small. Width inside lips < 55% of bony interorbital width	Wide and oval in shape. Width inside lips > 62% of bony interorbital width
*Pre-anal plates	Paired plates posterior to the rectum & anterior to the anal fin.	1-3 pre-anal plates almost always occurring as median structures (occurring singly)
Plates along the anal fin	Rhombic, bony plates found along the lateral base of the anal fin (see diagram below)	No plates along the base of anal fin
Habitat/Range	Anadromous; spawn in freshwater but primarily lead a marine existence	Freshwater amphidromous; found primarily in fresh water but does make some coastal migrations

* From Vecsei and Peterson, 2004



Describe any wounds / abnormalities (note tar or oil, gear or debris entanglement, propeller damage, etc.). Please note if no wounds / abnormalities are found. The specimen was deceased at the time of initial observation and collection by Salem Yard Crew personnel. Based on the observed state of decomposition, it appears that the fish has been deceased for an extended period of time. Although decay is severe in the area of the gills (red circle), specific wounds or related damage to the rest of the carcass could not be positively identified.

Data Access Policy: Upon written request, information submitted to National Marine Fisheries Service (NOAA Fisheries) on this form will be released to the requestor provided that the requestor credit the collector of the information and NOAA Fisheries. NOAA Fisheries will notify the collector that these data have been requested and the intent of their use.

Submit completed forms (within 30 days of date of investigation) to: Northeast Region Contacts – Shortnose Sturgeon Recovery Coordinator (Jessica Pruden, Jessica.Pruden@noaa.gov, 978-282-8482) or Atlantic Sturgeon Recovery Coordinator (Lynn Lankshear, Lynn.Lankshear@noaa.gov, 978-282-8473); Southeast Region Contacts- Shortnose Sturgeon Recovery Coordinator (Stephanie Bolden, Stephanie.Bolden@noaa.gov, 727-824-5312) or Atlantic Sturgeon Recovery Coordinator (Kelly Shotts, Kelly.Shotts@noaa.gov, 727-551-5603).

Sturgeon Impingement #2

ATTACHMENT 1 (Sturgeon) #2

Observer's full name: Kenneth E. Kiess
Reporter's full name: Kenneth E. Kiess

Species Identification (Key attached): Atlantic Sturgeon (Acipenser oxyrinchus)

Site of Impingement (Unit 1 or 2, CWS or DWS, Bay #, etc.): SGS Unit 1; CWI bay 13A

Date animal observed: 10-28-13 Time animal observed: 09:20
Date animal collected: 10-28-13 Time animal collected: 09:40
Date rehab facility contacted: _____ Time rehab facility contacted: _____
Date animal picked up: _____ Time animal picked up: _____

Environmental conditions at time of observation (i.e., tidal stage, weather):
Air temp. - 7.2°C; Sal. - 12.0 ppt; Wind - NW; sky - clear; wave - calm; tide Ebb 2 (90.1)

Date and time of last inspection of screen: 10/27/13 at 1800

Water temperature (°C) at site and time of observation: 15.0°C

Number of pumps operating at time of observation: Unit 1 6 Unit 2 6

Average percent of power generating capacity achieved per unit at time of observation:

Unit 1 100 Unit 2 100

Average percent of power generating capacity achieved per unit over the 48 hours previous to observation:

Unit 1 100 Unit 2 100

Sturgeon Information:

Species Atlantic Sturgeon (Acipenser oxyrinchus)

Fork length (or total length) Unmeasurable Weight Not measured

Condition of specimen/description of animal

Specimen was observed by Salem Yard Crew during routine trash rack clearing at Salem CWIB. It was dead upon retrieval, and was partially incomplete, missing the tail section, beginning at the vent. The specimen appears to have been deceased for an extended period of time, based on its state of decomposition. Other specific injuries could not be determined.

Fish Decomposed: NO SLIGHTLY MODERATELY SEVERELY

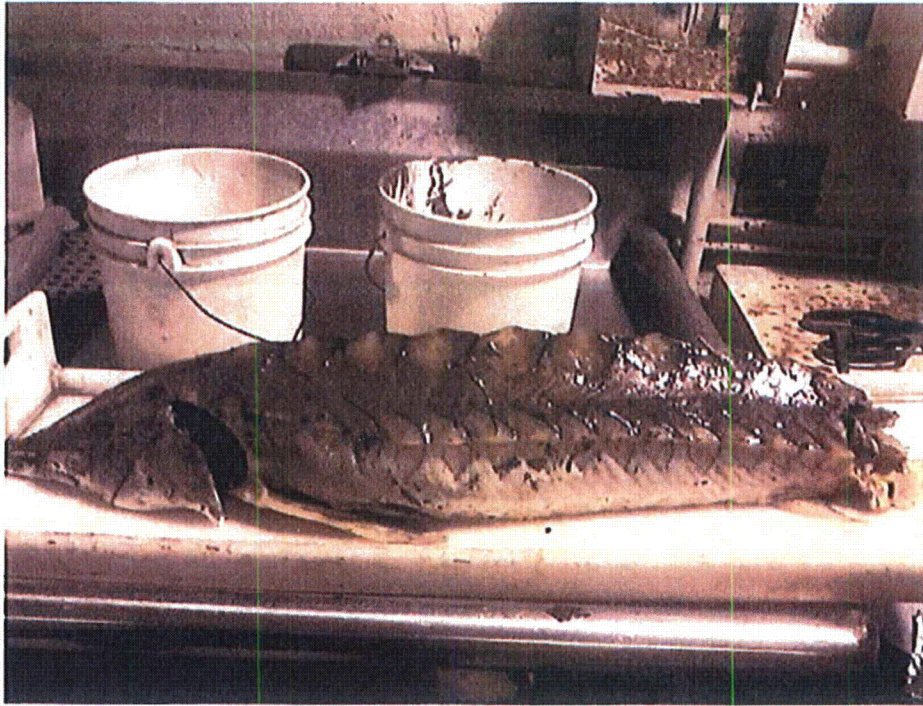
Fish tagged: YES (NO) Please record all tag numbers. Tag # _____

Photograph attached: (YES) / NO

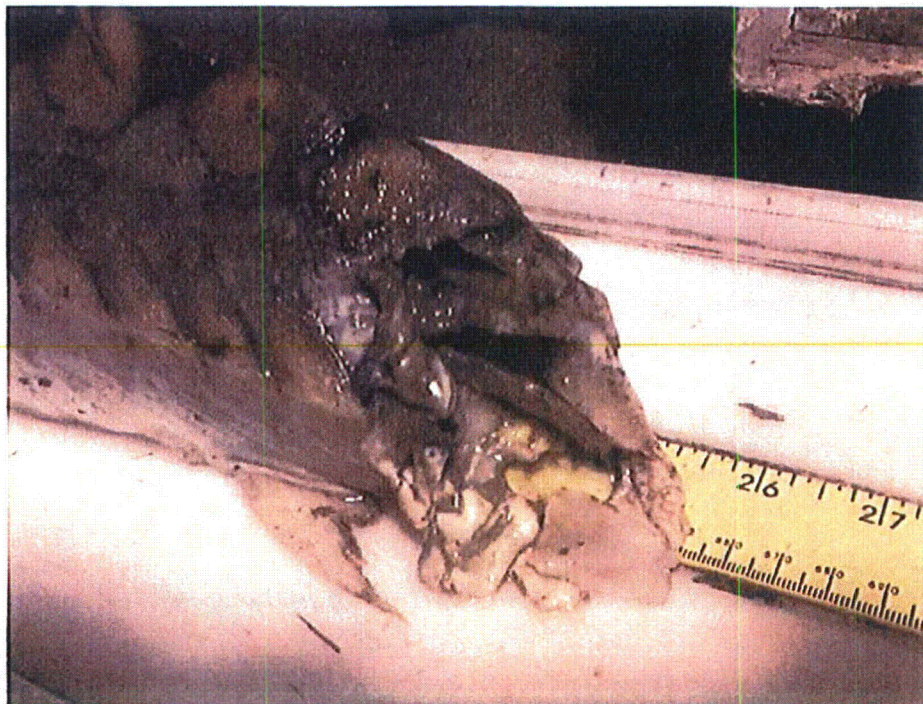
(please label species, date, geographic site and vessel name on back of photograph)

ATTACHMENT 1 (Sturgeon) continued #2

Photographs



View shows size and condition of a second Atlantic Sturgeon, (*Acipenser oxyrinchus*), collected on 10-28-13 at 09:40am by Salem Yard Crew, during routine trash rack cleaning at PSEG Salem CWIS. The specimen was missing the tail section when collected (10-28-13).



This view shows the damage and decay in the area where the tail is missing (10-28-13).

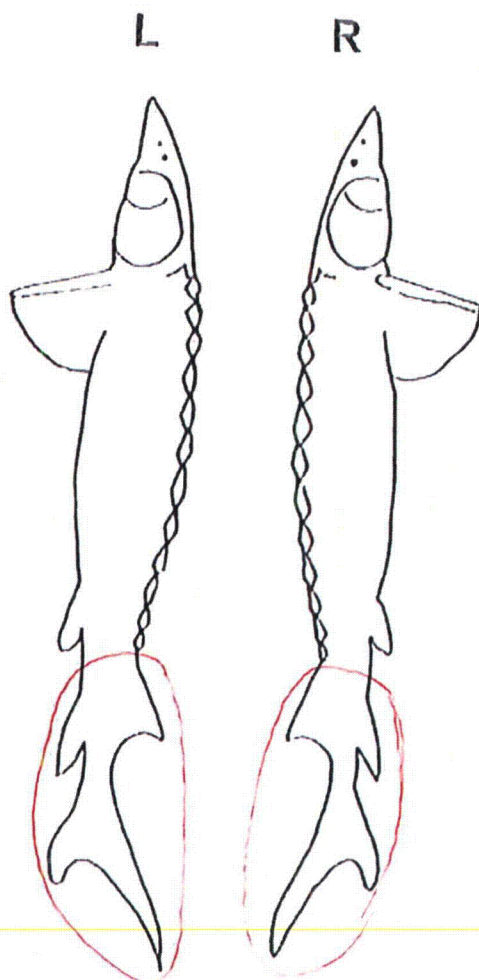
#2



This view shows the head portion of the fish. Despite some moderate decay, no other obvious damage to the specimen was observed (10-28-13).

ATTACHMENT 1 (Sturgeon) continued #2

Draw wounds, abnormalities, tag locations on diagram and briefly describe below



Description of fish condition:

The specimen was deceased at the time of initial observation and collection by Salem Yard Crew personnel. Most notable was the absence of the entire tail section, beginning just prior to the dorsal fin and including all of the caudal and anal fin (area identified by red circle above). Based on the observed state of decomposition, it appears that the fish has been deceased for an extended period of time.

STURGEON SALVAGE FORM #2

For use in documenting dead sturgeon in the wild under ESA permit no. 1614 (version 05-16-2012)

INVESTIGATORS'S CONTACT INFORMATION

Name: First Douglas Last Potts
 Agency Affiliation PSEG subcontractor Email dpotts@ecsi-del.com
 Address 100 South Cass Street, Middletown, DE 19709
 Area code/Phone number (302) 378-9881

UNIQUE IDENTIFIER (Assigned by NMFS)

DATE REPORTED:
 Month 10 Day 28 Year 2013
 DATE EXAMINED:
 Month 10 Day 28 Year 2013

SPECIES: (check one)

- ☐ shortnose sturgeon
☒ Atlantic sturgeon
☐ Unidentified *Acipenser* species
 Check "Unidentified" if uncertain.
 See reverse side of this form for aid in identification.

LOCATION FOUND: ☐ Offshore (Atlantic or Gulf beach) ☒ Inshore (bay, river, sound, inlet, etc)

River/Body of Water Delaware River City Hancocks Bridge State NJ

Descriptive location (be specific Removed from Circulating Water Intake Structure (CWIS)
Intake trash racks, Intake bay 13A, during routine trash rack cleaning at the Salem Generating
Station, PSEG Nuclear LLC.

Latitude 39° 27'38.17 N (Dec. Degrees) Longitude 75° 32'10.08 W (Dec. Degrees)

CARCASS CONDITION at time examined: (check one)

- ☐ 1 = Fresh dead
☒ 2 = Moderately decomposed
☐ 3 = Severely decomposed
☐ 4 = Dried carcass
☐ 5 = Skeletal, scutes & cartilage

SEX:

- ☒ Undetermined
☐ Female ☐ Male
 How was sex determined?
☐ Necropsy
☐ Eggs/milt present when pressed
☐ Borescope

MEASUREMENTS:

Circle unit

Fork length Unmeasurable
 Total length Unmeasurable
 Length ☐ actual ☐ estimate
 Mouth width (inside lips, see reverse side) 3.0 cm
 Interorbital width (see reverse side) 6.5 cm
 Weight ☐ actual ☐ estimate Not measured

TAGS PRESENT? Examined for external tags including fin clips? ☒ Yes ☐ No Scanned for PIT tags? ☐ Yes ☒ No

Tag #

Tag Type

Location of tag on carcass

CARCASS DISPOSITION: (check one or more)

- ☐ 1 = Left where found
☐ 2 = Buried
☐ 3 = Collected for necropsy/salvage
☒ 4 = Frozen for later examination
☐ 5 = Other (describe) _____

Carcass Necropsied?

☐ Yes ☒ No

Date Necropsied: _____

Necropsy Lead: _____

PHOTODOCUMENTATION:

Photos/video taken? ☒ Yes ☐ No

Disposition of Photos/Video PSEG Nuclear
Environmental Affairs and Nuclear
Regulatory Affairs personnel.

SAMPLES COLLECTED? ☐ Yes ☒ No

Sample

How preserved

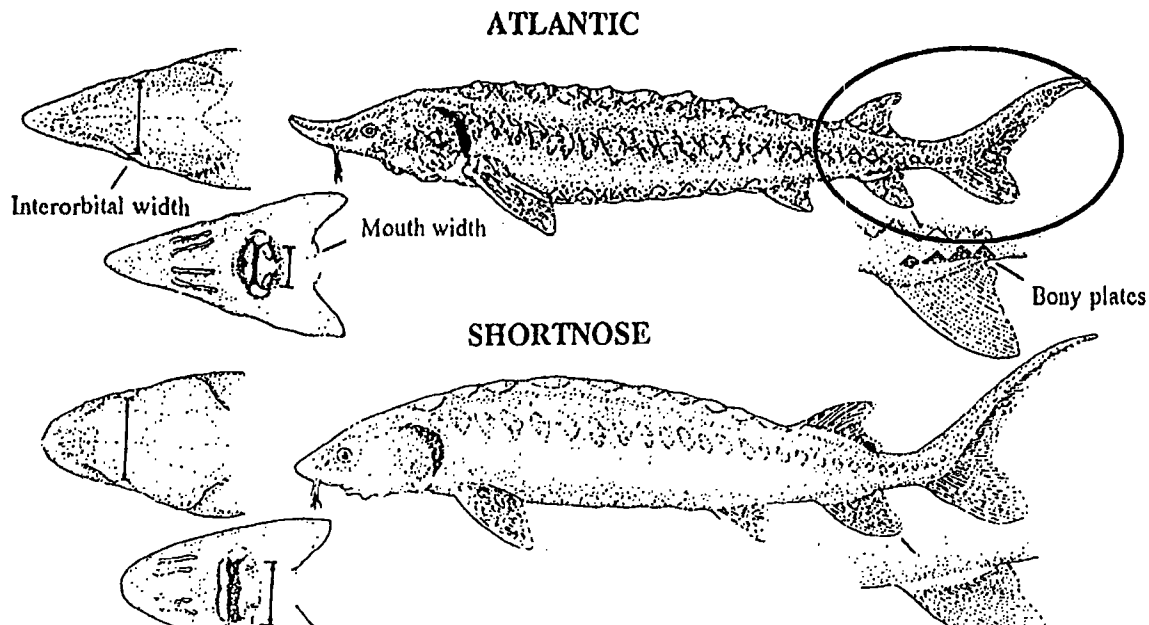
Disposition (person, affiliation, use)

Comments: The deceased Atlantic Sturgeon was collected from the Salem Circulating Water Intake Structure during routine trash rack cleaning on October 28, 2013. Positive identification was made by Environmental Consulting Services personnel at 09:45am. Photos and inspection for wire tags was made, but none were found. Since the tail section of the specimen from the dorsal fin to the caudal fin was missing, inspection for PIT tags and external tags was not made. The State of New Jersey DEP, Division of Fish and Wildlife, and National Marine Fisheries have been notified of the incidental take. The fish was transported back to the ECSI main office in Middletown, DE, and preserved (frozen). At the request of the NMFS, Delaware DNREC was directed to take possession of the specimen. Transfer of custody, from ECSI to DNREC, occurred on 10/29/13, at 10:55am.

Distinguishing Characteristics of Atlantic and Shortnose Sturgeon (version 07-20-2009) #2

Characteristic	Atlantic Sturgeon, <i>Acipenser oxyrinchus</i>	Shortnose Sturgeon, <i>Acipenser brevirostrum</i>
Maximum length	> 9 feet/ 274 cm	4 feet/ 122 cm
Mouth	Football shaped and small. Width inside lips < 55% of bony interorbital width	Wide and oval in shape. Width inside lips > 62% of bony interorbital width
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Habitat/Range	Anadromous; spawn in freshwater but primarily lead a marine existence	Freshwater amphidromous; found primarily in fresh water but does make some coastal migrations

* From Vecsei and Peterson, 2004



Describe any wounds / abnormalities (note tar or oil, gear or debris entanglement, propeller damage, etc.). Please note if no wounds / abnormalities are found. The specimen was deceased at the time of initial observation and collection by Salem Yard Crew personnel. Most notable was the absence of the entire tail section, beginning just prior to the dorsal fin and including all of the caudal and anal fin (area identified by red circle above). Based on the observed state of decomposition, it appears that the fish has been deceased for an extended period of time.

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